



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,021	08/09/2001	Minekazu Sakai	01-186	2499

23400 7590 04/14/2003

POSZ & BETHARDS, PLC  
11250 ROGER BACON DRIVE  
SUITE 10  
RESTON, VA 20190

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
----------	--------------

2856

7

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/925,021

Applicant(s)

SAKAI ET AL.

Examiner

John E Chapman

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 7-10, 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no proper antecedent basis for "the support substrate" in claim 18, line 9. It is suggested that "support substrate" be changed to --frame member--.

Likewise for "the support substrate" in claim 19, line 9.

3. Claim 11 and 13 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Clark et al.

Clark et al. discloses a semiconductor dynamic quantity sensor comprising a movable electrode 21d in Fig. 17 supported at opposite ends on a support substrate 10c having an opening portion 26, and a fixed electrode 21f supported on the support substrate on opposite sides of the opening portion 26. The only difference, if any, between the claimed invention and the prior art consists in the shape of opening 26. The opening 26 appears to define a width of frame member 10c in the displacement direction which is uniform on each side of movable electrode 21c and, if not, it would have been obvious to make the width uniform in order to provide a simple frame. A

mere change in shape is generally recognized as being within the level of ordinary skill in the art.

See *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 13, movable electrode 21c is symmetrical with respect to a vertical centerline in Fig. 17.

4. Claims 11-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakai et al. (6,450,031).

Sakai et al. discloses a semiconductor dynamic quantity sensor in Fig. 1 comprising a square frame member 5 having a square through hole 8 formed in the middle thereof. Note col. 8, lines 48-51.

5. Claims 11-13 are rejected under 35 U.S.C. 102(f) as being anticipated by the admitted prior art of Fig. 1.

Fig. 1 discloses a semiconductor dynamic quantity sensor comprising a frame member 203 which has a uniform width in the direction of displacement X at both the top and bottom portions of the frame member.

6. Claims 14, 16 and 17 are rejected under 35 U.S.C. 102(f) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over the admitted prior art of Fig. 1.

Regarding claim 14, the only difference, if any, between the claimed invention and Fig. 1 consists in having the width of frame member 203 be approximately equal on each side. The

widths in Fig. 1B appear to be “approximately equal” and, if not, it would have been obvious to make them equal in order to provide a symmetric sensor. A mere change in size or shape is generally recognized as being within the level of ordinary skill in the art. See *In re Rose*.

Regarding claim 16, frame member 203 appears to be square and, if not, a square configuration would have been an obvious change in shape. See *In re Rose*.

Regarding claim 17, the widths of frame member 203 in the X-direction appear to be “approximately equal” and, if not, it would have been obvious to make them equal in order to provide a symmetric frame. See *In re Rose*.

7. Claims 1-4, 7-10, 21 and 22 are allowed.

8. Applicant's arguments filed March 10, 2003 have been fully considered but they are not persuasive. Applicant argues that Clark et al. fails to teach or suggest that the width of the frame is uniform in the displacement direction. However, the width of frame member 10c in the displacement direction appears to be uniform on both sides of movable electrode 21c. Applicant has not provided any basis for stating that the width is not uniform on either side. Applicant has not provided argument as to why Fig. 17 would not have suggested uniform sides.

Applicant argues that the widths of frame parts as recited in claim 11 lead to unexpected and superior results. It would appear that applicant's argument is directed to Fig. 12 wherein the widths A1 and A2 in Fig. 11c are equal. However, claim 11 recites only a single width which is “uniform,” and the width of frame member 10c in the displacement direction is uniform on each

side of movable electrode 21c in Fig. 17 of Clark et al. To the extent that applicant is arguing that the widths A1 and A2 are equal, applicant's argument is more specific than the invention claimed in all but claim 17, since only claim 17 recites that the widths are equal.

To the extent that Fig. 12 shows "unexpected and superior results, such showing is directed only to the issue of nonobviousness. It does not relate to the issue of anticipation, and is not determinative of the issue of nonobviousness. It is merely one issue which must be considered by the examiner in determining the issue of obviousness of claims for patentability under 35 U.S.C. 103. Accordingly, such showing is directed only to the rejection of claim 17 under 35 U.S.C. 103, and even there the showing is inadequate because there is insufficient nexus. To be given substantial weight, the evidence must be relevant to the invention claimed. Fig. 12 is directed to a sensor wherein the thermal expansion coefficient of an adhesive 107 is significantly different from that of the support substrate. Note page 26, lines 19-25, and page 27, lines 5-9. Claim 17, however, does not recite an adhesive having a thermal expansion coefficient significantly different from that of the support substrate.

Applicant argues that Sakai fails to disclose a frame member having a uniform width in the displacement direction. However, frame member 5 in Fig 1 has a square hole 8 which defines a frame member having a uniform width on the top portion, as well as on the bottom portion, of the frame member. To the extent that applicant is arguing that the width of the top portion is equal to that of the bottom portion, such argument is more specific than the invention claimed in all but claim 17. Furthermore, the applicant has not explained how one can form a square hole in the

middle of a square frame (page 8, lines 48-51, of Sakai) without defining a frame having equal widths on the top and bottom portions.

Regarding claim 14, the applicant argues that Sakai fails to disclose a sensor having approximately equal widths of portions supporting fixed electrodes. However, this is precisely what is illustrated in Fig. 2 of Sakai.

Regarding claim 15, the applicant has not explained how one can form a square hole in the middle of a square frame without the frame being point-symmetrical.

Applicant's arguments regarding the admitted prior art are not persuasive for the same reasons.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Application Number: 09/925,021  
Art Unit: 2856

Page 7

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Chapman whose telephone number is (703) 305-4920.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

  
**JOHN E. CHAPMAN**  
**PRIMARY EXAMINER**